Dr. LEONG Mun Kew

Director, Graduate Programmes

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Profile

Mun Kew is appointed as Director, Graduate Programmes of NUS-ISS. Prior to joining NUS-ISS, Mun Kew held multiple positions with the National Library Board, Singapore, as CTO, Deputy CIO & Director CIO Office, and Director, Digital & Knowledge Infrastructure Division. As Deputy CIO, he was responsible for governance and architecture and started ongoing efforts in master data management, enterprise architecture and corporate governance of IT. In particular, he designed a federated approach to EA that allows a gradual easing of operations oriented organisations into a business driven architecture, and started the Government EA Forum to promote practitioner sharing of EA pains and successes. Before NLB, Mun Kew was Principal Scientist and Programme Director for Services Research at the A*STAR Institute for Infocomm Research. In his 20-year research career, his personal research was in information retrieval, digital libraries, distributed multilingual search systems and media semantics, and he also looked after research groups in NLP, security, ontology, data mining and analytics. From 1999 to 2001, Mun Kew was VP and CTO of an IT startup delivering custom distributed deep search technologies and services. He has published and patented in these areas and is an invited speaker in many talks, most recently on cloud computing in government. Mun Kew received his PhD from Stanford University. He has more than 25 years of R&D and commercial experience in IT. He was Chair and Editor of the ISO/JTC1/WG2/24800 JPSearch international standard, editor or past editor of the Journal of Information Retrieval, Information Processing and Management Journal, member of the advisory board for the School of IIT at Temasek Polytechnic, the IRAL and AIRS symposium series, and formerly Adjunct Assoc. Prof at the National Institute of Education.

Educational Qualifications/Professional Certifications

- PhD, Stanford University
- BSc (High Honours), University of Toronto

Academic and Professional Experience

- 2010 – 2011: Chief Technology Officer / Director, Digital & Knowledge Infrastructure Division, National Library Board, Singapore
- 2008 – 2010: Chief Technology Officer / Deputy Chief Information Officer, National Library Board, Singapore
- 2007 – 2008: Programme Director & Principal Scientist, Services Research, A*STAR Institute for Infocomm Research
- 2005 – 2007: Division Director & Principal Scientist, Computing Division, A*STAR Institute for Infocomm Research
- 2005 – 2008: Chair, JPSearch AHG & Co-Editor, JPSearch Parts 1 to 5, ISO/IEC/JTC1/W1/24800 (JPEG Search) International Standard
- 2004 – 2007: Adjunct Associate Professor, Learning Sciences and Technology Academic Group, National Institute of Education, Nanyang Technological University
- 2003 – 2005 – Department Manager & Lead Scientist, Media Semantics Department, A*STAR Institute for Infocomm Research
- 2001 – 2003 – Research Leader, New Initiatives Program. Concurrently, Head, Planning Group
- 1999 - 2001: Vice-President and Chief Technology Officer, BIGontheNet Pte Ltd. (on secondment)
- 1987 – 1999: Various positions, Institute of Systems Science Research Division/Kent Ridge Digital Labs/Laboratories for Information Technology/ Institute for Infocomm Research (these are all the same entity after several mergers)

Membership and Professional Activities

Memberships

- Member, IT Management Association (since 2008, Exco member since 2011)
- Senior Member, Singapore Computer Society (since 2008, member since 1994)

Invited Keynotes, Talks, Lectures, and Tutorials

- Co-Creation – It's Not Just the Data, Invited Talk for the Government CDO (Chief Data Officer) Network, Singapore, 2011
- A Dose of Reality – the Customers' Perspective on the Cloud, Invited Talk, IBM Smart Cloud Camp, Singapore, 2011
- There's No Such Thing as Security in the Cloud, Invited Talk, SITF Cloud Chapter, Singapore, 2011
- Leveraging on Technology to Drive Business, Opening Keynote, SME Internet Summit, Singapore, 2011
- Lessons from a Library for Connected Government, Invited Keynote, FutureGov Forum Malaysia, Kuala Lumpur, 2011
- Government in the Cloud, Opening Keynote, The International Cloud Computing Forum & the Result Presentation of Industrial Technologies of the Taiwan Research Cloud, Kaohsiung, Taiwan, 2010
- Innovation on a Budget, Invited Keynote, Asia CIO Forum, Singapore, 2010
- Thinking Twice before Going on the Internet, Opening Keynote, SME Internet Summit, Singapore, 2010
- Government in the Cloud: The Future of Information Management, Invited Keynote, FutureGov Forum, Hong Kong, 2010
- Government in the Cloud, Invited Keynote, FutureGov Forum, Singapore 2010

- Cloud Computing: A Data Perspective, Invited Talk, Government Cloud Forum, Singapore, 2009
- Cloud Computing: A User Perspective, Invited Talk, FutureGov Summit, Indonesia, 2009
- Cloud Computing, Invited Talk, SOA Developer's Day 2009, Singapore, 2009
- Sharpening the Knife, Keynote Speech, Ministry of Education CPDD Sharing Symposium, Singapore, 2009
- Molly: The Mobile Library, Invited Talk, FutureGov Summit, Indonesia, 2008
- The Future of Games for Learning, Keynote Speech, International Conference on Educational Technologies, Singapore, 2007
- The Role of Emerging Technologies for the 21st Century Education, invited lecture at 2nd QS-APPLE Conference: ICT for Learning 21st Century Skills, Singapore 2006
- ICM Technology Trends and their Ramifications on Education, Keynote speech, MOE IT Seminar for Cluster Superintendents & Principals, 2006
- Personalization, and IT Trends, Two invited talks for the Media Development Authority (MDA), Singapore, 2005
- Are Computers Creative? Invited talk at the Creativity Forum, Singapore, 2004
- User Centered Trends: IT in 2004 & Beyond, invited talk to SES top management, 2004
- Are We Still Far Away from Talking about Media Semantics? Keynote speech, International Workshop on Advanced Imaging Techniques (IWAIT 2004), Singapore, 2004
- 1500 Search Engines on the Internet. Which is the right one for me?, Opening Talk in the NLB/ICAAS IT@Orchard Seminar Series, 2001, Singapore
- Patent Data for IR Research and Evaluation, invited talk at the NTCIR-2 Workshops, Panel on Looking Ahead In IR and Summarization Research and Evaluation, 2001, Tokyo, Japan
- Search Engines are not Roadmaps in the Internet, invited talk in Panel on Digital Opportunities and Challenges, SCS Festival, 2001, Singapore
- Trends and their Ramifications for the Evaluation of IR, invited talk at the NTCIR/IREX Workshops, Panel on the Future of the Evaluation Project in Asia, 1999, Tokyo, Japan.
- Trends in Digital Libraries: an idiosyncratic perspective, invited talk at the Library School, Temasek Polytechnic, 1999, Singapore.
- Some very preliminary ideas on the fundamental nature of representation, and their ramifications on information retrieval, invited seminar given at NACSIS, Tokyo, Japan, Feb 1999
- Machine Translation & the Internet, invited tutorial at the Machine Translation (MT) Summit VII, 1999, Singapore.
- The Logic of Visual Representation, invited paper at the CSLI Logic Symposium, Stanford University, 1994

Editorial & Advisory Boards/Committees:

- Member of the Editorial Board, Information Retrieval Journal, Springer, 2007 - 2011
- Member of the School Advisory Committee, Temasek Polytechnic School of IT, Singapore, since 2000
- Member of the Steering Committee, the Singapore Bio-imaging Consortium (SBIC), 2004-2009
- Member of the Steering Committee, the Asia Information Retrieval Symposium (AIRS) Series, 2004-2009
- Member of the Singapore National Library Board (NLB) Digital Library Advisory Board, 2006
- Member of the Editorial Board, Information Processing and Management: An International Journal, Pergamon Press, 1999-2004
- Member of the IT Review Committee, Ministry of Education, Singapore, 2004

- Member of the Steering Committee, the IRAL (Information Retrieval with Asian Languages) Workshops, 1997-2003
- Member of the Standing Program Committee, the NTCIR (NII/NACSIS Test Collection for Information Retrieval) Workshops (organized by the National Institute of Informatics (NII), Japan), 1999-2002

General, Program & Organizing Chair:

- Organizing Co-Chair, ITMA 17th IT Best Practices Seminar, Singapore, 2011
- General Co-Chair, ACM SIGIR Conference on Information Retrieval 2008, Singapore, 2008
- Finance Co-Chair, 4th Asia Information Retrieval Symposium (AIRS 2008), China, 2008
- Technical & Organizing Chair, A*STAR Cognitive Science Workshop Series, 2007
- General Chair, 3rd Asia Information Retrieval Symposium (AIRS 2006), Singapore, 2006
- Organizing Chair, SBIC Workshop on Medical Image Processing, Analysis and Storage
- Posters & Demos Co-Chair, ACM SIGIR Conference on Information Retrieval 2006, Seattle, USA, 2006
- Publicity Co-Chair, 2nd Asia Information Retrieval Symposium (AIRS 2005), Jeju, Korea, 2005
- Finance Chair, First Asia Information Retrieval Symposium (AIRS 2004), Beijing, China, 2004
- Program Co-Chair, ACM SIGIR Conference on Information Retrieval 2000, Athens, Greece, 2000
- Co-chair, ACM SIGIR Conference on Information Retrieval 2002: Workshop on Mobile Personal Information Retrieval, 2002
- Co-chair, ACM SIGIR Conference on Information Retrieval 2000: Workshop on Patent Retrieval, 2000
- Program Chair for Technology, 1999 South-East Asian Regional Computer Conference (SEARCC), 1999
- Program and Organizing Chair, IRAL'98 - the 3rd Information Retrieval with Asian Languages Workshop, 1998
- Co-chair, 1998 Pacific Rim International Conference on Artificial Intelligence (PRICAI) Joint Workshop on Cross Language Issues in AI & Issues of Cross-Cultural Communication, 1998
- Organizing Committee: IRAL'99, IRAL'2000, IRAL'2003, Digital Libraries Asia 1998, MT Summit VII Workshop on Machine Translation for Cross-language Information Retrieval, etc.

Program Committees:

- ACM SIGIR Conference on Information Retrieval (1999-2007, 2009)
- Information Retrieval with Asian Languages IRAL Workshop (1998-2003)
- Asia Information Retrieval Symposium (2004-2008)
- International Conference on Advanced Learning Technologies (2005)
- International Conference on Computers in Education (2005-2007)
- International Conference on Digital Archives Technology (2004,2005)
- Association for Computational Lingusitics ACL Conference (1999, 2000, 2003)
- String Processing and Information Retrieval (SPIRE) Symposium (2001)
- Asian Digital Libraries Conference (2002)
- International Conference on Computer Processing of Oriental Languages ICCPOL (2001)
- International Conference on Chinese Language Computing (2000)
- Australian Document Computing Symposium (1999, 2000, 2001)
- Recherche d'Informations Assistee par Ordinateur (RIAO) Conferences (2000, 2003)
- Etc.

Paper Review for Journals, etc.:

- Information Retrieval Journal
- International Journal of Information Technology
- Information Processing & Management
- Multimedia Systems Journal
- ACM Transaction on Asian Language Information Processing
- IEEE Transactions on Knowledge and Data Engineering
- Multimedia Tools and Applications
- IEEE Computer
- Etc.

Miscellaneous:

- Judge, Tan Kah Kee Young Inventors Award (2007-2012)
- Judge, Singapore Science & Engineering Fair (2005-2007)
- Judge, National Junior Robotics Competition, (2002-2005)
- Judge, National Science Talent Search, (2002, 2005,2006)
- Judge, The First Lego League Robotics Competition, 2002, Singapore
- Mentor for ACM SIGIR Conference on Information Retrieval (2002,2003)
- Best Paper Awards Committee of ACM SIGIR Conference on Information Retrieval 2001
- Patent Mentor and Patent Reviewer, KRDL/LIT/I2R, 1998-2000, 2002-2006
- Member of the Singapore National Information Infrastructure Technical Committee, 1997-1999

Research Interests

- Management and leadership of IT
- Corporate Governance of IT
- Digital preservation & storage systems and issues
- Digital Library architecture, design and services
- Media Semantics
- Information Retrieval in specialized domains

Selected Publications

Patents

- Hwee-Hwa Pang, Mun-Kew Leong, Softgoods Distribution Via a Network, granted 29 Oct 2004
- Viktor Cheng, Mun-Kew Leong, Boey-Kin Lim, A method and system for controlled recursive distribution of points of presence supporting asynchronous bidirectional informational or functional communication, filed internationally in 2001, Application No: PCT/SG01/00173 (Note: I was the main inventor, but the inventor names were listed in alphabetical order in this case)
- Hwee-Hwa Pang, Limsoon Wong, Mun-Kew Leong, A method of connecting a plurality of remote sites to a server, filed internationally in 2001, Application No: PCT/SG01/00244

Journal Articles

- Tzemin Chung, Mun Kew Leong and Joel P.L. Loo, "Mobile Learning: Use of Voice Blogs in Adults Language Learning", International Review of Research in Open and Distance Learning, (accepted)
- Lingpeng Yang, Donghong Ji and Munkew Leong, "Document reranking by term distribution and maximal marginal relevance for chinese information retrieval", in Information Processing & Management: Special Issue on AIRS2005: Information Retrieval Research in Asia, Volume 43, Issue 2, pp 315-326
- Jean-Pierre Chevallet, Joo-Hwee Lim, Mun-Kew Leong, "Object Identification and Retrieval from Efficient Image Matching Snap2Tell with the STOIC dataset", in Information Processing & Management: Special Issue on AIRS2005: Information Retrieval Research in Asia, Volume 43, Issue 2, pp 515-530
- N.Kando, M.Leong, "Workshop on Patent Retrieval: SIGIR 2000 Workshop Report", SIGIR Forum, Spring 2000, Volume 34, Number 1, pp 28-30
- M.K.Leong, L.Cao, Y.Lu, "Distributed Chinese Bibliographic Searching", Communications of the ACM, Vol 41 No 4, April 1998
- Iwadera Toshiaki, Hayashi Yoshihiko, Kikui Genichiro, OBashi Yoshitsugu, Leong Mun-Kew, Choi Key-Sun, "An Distributed Cross-Language Information Retrieval Architecture", IPSJ SIGNotes Fundamental Infology, Vol 51 (1998)
- L.Cao, M.K.Leong, Y.Lu, H.B.Low, "Searching Heterogeneous Multilingual Bibliographic Sources", Computer Networks and ISDN Systems, Vol 30 (1998), pp. 612-615
- M.K.Leong, B.S.Choo, C.H.Kok, J.J.Lim, A.D.Narasimhalu, "The Implementation of a Visual Language Interface for an Object-oriented Multimedia Database System", Journal of Visual Languages and Computing, Vol.1, 1990.

Books Chapters

- Hans Myrhaug, Mun-Kew Leong, Ayse Goker, "Mobile Information Retrieval", in Ayse Goker, Margaret Graham, John Davies (Eds.)
- Mun-Kew Leong, "Conversational Paradigm as a Paradigm for User Interaction on Mobile Devices", in Fabio Crestani, Mark Dunlop, Stefano Mizzaro (Eds), *Mobile and Ubiquitous Information Access*, Springer LNCS Vol 2954, 2004, pp. 11-27

Courses

- Certified Enterprise Architecture (CEITA)
- Text Mining (forthcoming)
- NICF - Specialist Diploma in Enterprise Architecture
- NICF - Cloud Economics & Technology for Practitioners
- MTech - Open Source for the Enterprise
- MTech - Cloud Computing

Customised modules:

- Effective Management of IT for Non-Profits for the LKYSPP Senior Management Programme for Non-Profits, 2012
- e-Procurement in Context for the LKYSPP Executive Programme, 2012

What I Teach

DIGITAL STRATEGY & LEADERSHIP

Professional Certificate in Digital Organisation Models

DIGITAL STRATEGY & LEADERSHIP

Professional Certificate in Digital Business Strategy

DATA SCIENCE

Data Driven Decision Making

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